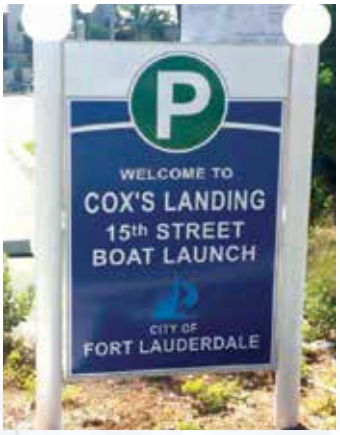
CASE STUDY

The City of Fort Lauderdale embraces large-scale sustainability on its parking lots.

LOTS OF GREENING

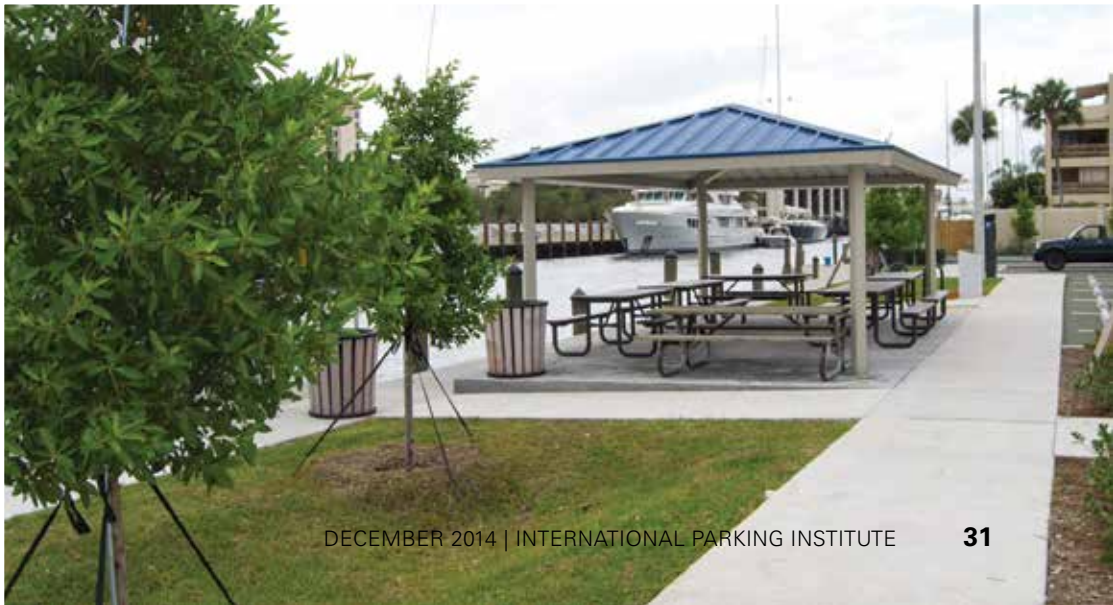


By Brian McKelligett

The city of Fort Lauderdale, Fla., recently completed an almost one-year renovation of its very popular and recently renamed Cox's Landing 15th Street Boat Launch. This launch facility has long been popular with boaters thanks to its easy access to the ocean. The city estimates that more than 17,000 boaters use it to get in and out of the water every year.

The $1.7 million renovation was partially funded with $1.3 million in grant funds from the Florida Inland Navigation District's Waterway Assistance Program and the Broward Boating Improvement Program for construction and renovation at the multi-use marine facility. The project commenced in November 2013 and was completed in August 2014.

A $1.7 million renovation of the Cox's Landing 15th Street Boat Launch parking lot added sustainable features and made the entire area more visitor-friendly.



Before you can boat, you have to park your car, and that's where we came in. In January 2013, the City of Fort Lauderdale's Transportation and Mobility Department entered into a partnership with IPI, the Green Parking Council (GPC), and Timothy Haahs and Associates, Inc., to develop a list of sustainable parking lot improvements for the city's many surface parking lots. The city then completely renovated its Orchid Parking Lot at City Hall. This upgrade included many of the sustainable best practices that were developed, and this lot was showcased at the 2013 IPI Conference & Expo held in Fort Lauderdale (see the December 2013 issue of *The Parking Professional* for more).

Expanded trailer parking features a solar-resistant coating.

Going Green

A list was developed with a number of sustainable best practices to be incorporated into the renovation at Cox's Landing. Although many of these best practices are in the process of being applied at many of the city's other surface lots, Cox's Landing will be the first finished green lot.

Some of the sustainable best practices and renovation initiatives introduced at this lot include:

- Undergrounding of overhead utility lines and all new energy-efficient overhead lighting throughout the facility.
- A new ADA-accessible, solar-powered restroom building.
- A new picnic area with a fish-cleaning station and parklet built on pervious concrete.
- Expanded public and trailer parking with a StreetBond SR150 solar-resistant coating application.
- Solar-powered, multi-space parking meters.
- New concrete curbing and pervious concrete sidewalks throughout the facility.
- Florida-friendly sustainable landscaping throughout with bio-retention swales.
- New floating docks for Fort Lauderdale's Police Marine Unit.
- Exterior improvements and ADA accessibility to the police building.

The city was able to keep this facility open during the entire renovation process to minimize disruption to the boat launch.

Moving Ahead

Cox's Landing went well—so well that the city is moving forward with many of these and other sustainable initiatives in its other surface lots. A contract was recently signed to resurface seven additional lots with the StreetBond SR150 application. These seven lots represent more than 330,000 square feet of asphalt surface and more than 450 parking spaces.

The solar reflective coating for asphalt has specialized characteristics that reduce the urban heat island effect by reducing the amount of solar energy absorbed by pavement surfaces. The color selected for these projects is evergreen, which has a solar reflective index of .33 and meets LEED requirements. The total cost for this portion of the project is just more than $1 million.

Lighting in three lots has already been completely retrofitted to solar. The three lots selected are directly adjacent to the East Las Olas Boulevard, which is one of South Florida's most architecturally unique, authentic, and eclectic shopping and dining districts. These lots include 163 parking spaces and are some of the most heavily used in the city.

A large solar collector was installed in each of the lots with numerous ground-level solar lights, sufficient to illuminate each lot in all lighting conditions. Community interest and acceptance of this lighting project has been exciting and we hope to duplicate it in other lots within the city. Where that is not possible, energy-efficient LED lighting will replace existing lighting.

Two Wheels, Too

Working with the Fort Lauderdale Parks and Recreation Department, bicycle racks are being installed throughout the city. In many cases these racks replace one or more on-street public parking spaces. Bollards are installed at the corner of each bike rack station to protect the bicyclist and bicycle. Where possible, bike racks are also being installed in the city's surface parking lots.

The city has dozens of special events each year. To encourage alternative methods of transportation and take advantage of Florida's beautiful weather, the city is working with outside vendors to provide bike valet stations at each event. Bike valet parking works like a coat check for bicycles: Patrons are issued claim checks in exchange for their bikes, which staff members guard in a secure corral. When you are ready to leave, you present your claim check to get your bike back.

In addition to the bike rack, the city, in partnership with Broward B-Cycle, has bicycle sharing stations throughout the entire area. All users need to do is purchase an annual membership for less than $50. The program is open year-round. Annual members are issued B-cards and get the first half-hour of every trip at no additional charge, plus discounted rates on longer journeys. Just pick up a bike at one of the dozens of stations and ride it, leaving it at any other B-Cycle station.

Landscaping

Working with parks and recreation, all parking lot landscaping is being upgraded to be more Florida-friendly. Irrigation of lawns and landscaping in Florida represents the single largest use of water from our municipal water supplies. This water use has seriously affected the aquifer, which is the source of our drinking water and water that supports Florida's lovely springs and other ecosystems. In addition, fertilizers and pesticides used on lawns are major sources of pollution. Florida native plants require little irrigation or fertilizer and are typically very low maintenance.

EV Charging

Another sustainable initiative we are undertaking is to install electric vehicle (EV) charging stations in as many of our surface parking lots as feasible. We are currently in the process of installing dual-head, level two charging stations in seven of our surface parking lots. Earlier this year, the city installed South Florida's first EV charging stations that are powered with wind turbines in our Mills Pond Park. These four new stations are certainly noticed and used, and the wind turbines can be seen from I-95. (An EV charging station that was installed as part of the 2013 IPI Conference & Expo is still in constant use at City Hall.)

Surfaces

In October 2013, working in conjunction with Titan America, the city completed a demo installation of PaveDrain® at the City Hall parking lot. PaveDrain® is a permeable articulating concrete block pavement system, uniquely designed to mitigate stormwater flooding and to increase low-impact development (LID). It is an excellent product for South Florida because it allows stormwater to infiltrate naturally back into the aquifer, eliminating the need for underground stormwater systems and/or retention ponds.

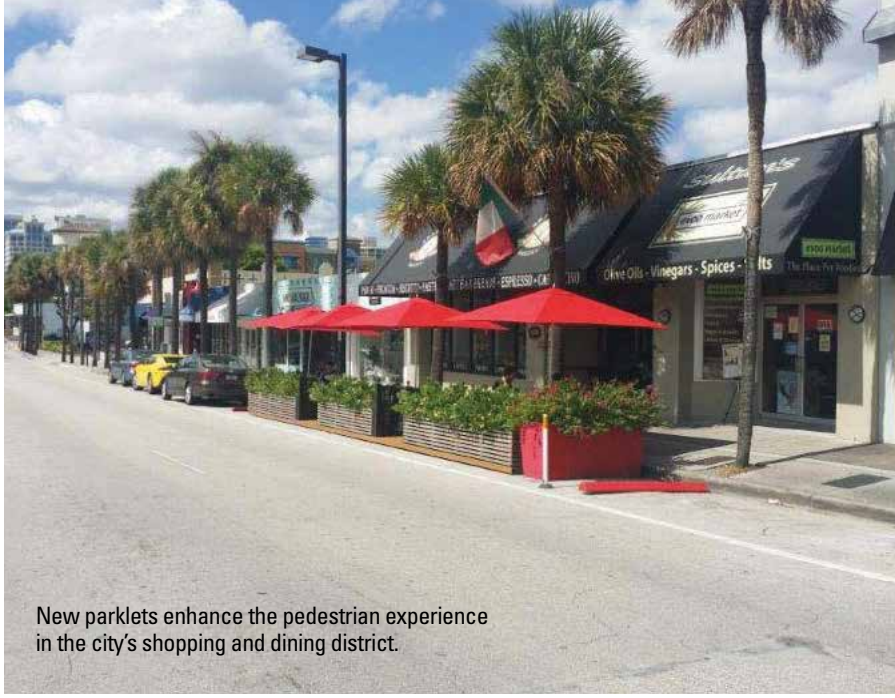
One year later, the product is holding up extremely well and has generated a tremendous amount of interest. Plans are in the works to install this product at another of the city's surface parking lots.

Technology

The city is in the final stages of awarding a contract to install smart parking technology throughout more than 13,000 parking locations. Using embedded sensors and a smartphone application, a driver can find available parking spaces throughout the city. This helps drivers make better driving choices before they even leave their homes. This technology can dramatically reduce driving time, emissions, and driver frustration.

In addition, installation of this technology will completely change the way the city's parking enforcement division works. Instead of randomly patrolling the city looking for parking violations, parking enforcement is immediately alerted when a parking session expires.

The embedded sensor communicates to the meter when a vehicle pulls into a spot. The meter communicates directly to the enforcement officer if payment is not made or if time has expired. Again, this will dramatically reduce the time enforcement spends roaming the city. Enforcement officers will be directed to potential violations, which will reduce fuel usage and emissions.



New parklets enhance the pedestrian experience in the city's shopping and dining district.

Parklets

At a City Commission meeting on August 20, 2013, the city passed a one-year trial Parklet Pilot Program ordinance. This program has now been extended until the end of December 2014. A parklet is a semi-permanent deck that expands the pedestrian realm beyond the sidewalk into a parking lane. This allows adjacent business owners to provide outdoor seating without the need for permanent street redesign and construction.

Parklet areas may include elements such as table and chairs, with or without food and beverage service, planters, and other improvements generally located in front of existing businesses.

The first parklet was built in the 1200 block of East Las Olas Boulevard, the city's premier shopping and dining destinations. Several additional parklets are in the planning and permitting stage.

As you can see, Fort Lauderdale takes green seriously, even (maybe especially) in its parking lots, proving that sustainable parking is doable and realistic for municipal parking programs.

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